News Release

Defense Advanced Research Projects Agency

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DARPA WORKSHOP TO ENCOURAGE COLLABORATION BETWEEN ARTIFICIAL INTELLIGENCE AND WIRELESS NETWORKING COMMUNITIES

The Defense Advanced Research Projects Agency (DARPA) and the National Science Foundation are sponsoring a workshop on Real-Time Knowledge Processing for Wireless Network Communications at Stanford University on March 29, 2006. Researchers working in the areas of artificial intelligence and wireless networking are invited to attend.

The goal of the workshop is to familiarize artificial intelligence researchers with the adaptive networking problem area, and to engage the artificial intelligence community with network researchers in a discussion of how tools and techniques developed by the artificial intelligence community might be applied to large-scale wireless networks.

Technologies currently used to organize and adapt mobile ad hoc networks (MANETs) do not scale beyond 50 to 100 nodes. DARPA is funding MANET programs that foresee self-organizing wireless networks of millions of nodes. Researchers are also beginning to investigate the application of reasoning and artificial intelligence to complex and adaptive wired and wireless networks, but such research is often constrained by the lack of tools and technology focused on this class of embedded and distributed applications.

The workshop will bring together researchers in the artificial intelligence and software radio communities to discuss research opportunities, the needs of large-scale MANETs, initial experience with cognitive techniques used in experimental MANETs, and novel organizing technologies that can be used to support these large MANETs.

The workshop will host panels and invited papers in two broad areas: (1) the problems the wireless networking community faces that require cognitive technology solutions, and how network researchers have been applying cognitive technologies, and (2) opportunities for scaling large MANETs by the use of cognitive technologies such as reasoning, learning, declarative, and neural network technologies.

The workshop will address the following specific areas:

- Scaling problems with large-scale self-organizing MANETs;
- Experience implementing AI solutions for MANETs;
- Reasoning and resource management applied to routing and spectrum allocation;
- Ontologies and reasoning in MANETs;

(more)

- Toolkits for real-time knowledge processing; and
- Hybrid techniques combining neural processing/learning/genetic algorithms with abstraction and reasoning from a priori knowledge.

The workshop is open to all interested researchers. To attend, please register via the web at http://www.knowledgebasednetworking.org/ by March 24, 2006. The website also includes additional information on the workshop. There is no charge to register or to attend. Media interested in attending should register on the website.

The workshop will immediately follow the Spring Symposium Series of the American Association for Artificial Intelligence, but is not affiliated with symposium or the association.

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Media with questions, please contact Jan Walker, (703) 696-2404, or jan.walker[at]darpa.mil. Researchers should contact Preston Marshall at preston.marshall[at]darpa.mil.